

# Ministry of TRANSPORT



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## HYDE PARK UNDERGROUND GARAGE

### MINISTER OF TRANSPORT'S VISIT

Mr. Ernest Marples, Minister of Transport, today inspected progress of the construction work on the Hyde Park underground garage.

He was told that, on present showing design, excavation and construction would all have been completed within 12 months, and the garage in use for parking before Christmas. Restoration of the Park surface, including the sowing of grass, should be complete not later than the Spring of next year; and, when the grass is established, the Park will look little different from its appearance before work started.

Rights for the construction of the garage were granted by the Minister of Transport to Westminster City Council, who let the contract for design and construction to Messrs. Sir Robert McAlpine and Sons Ltd. The Ministry has approved the design and is co-operating with the Council on all constructional aspects.

The garage, a single-storey structure, will hold about 1,100 cars, and will have a petrol filling station. It will have ramped accesses from the East Carriage Road at Grosvenor Gate and the North Carriage Drive near the new Marble Arch roundabout. There will be normal and emergency pedestrian exits to the surface, and direct underground connection with the Marble Arch subways. The few surface structures will be concealed. The public footway at the East Carriage Drive access will be diverted behind the ramp and petrol filling station.

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ST. CHRISTOPHER HOUSE, SOUTHWARK STREET, LONDON, S.E.1.

About 200,000 cubic yards of soil have been excavated from the site. Most of this will be used in the construction of the Chiswick-Langley Motorway; the rest will be required for reinstatement of the Park surface.

Westminster City Council, who produced the basic design and are financing the scheme, have given a welcome lead in providing off-street parking accommodation. Their Audley Street garage (370 cars) should be open this year. Preliminary plans are well ahead for car parks in Savile Row (about 400 cars) and in Whitcombe Street (about 300 cars) while others are contemplated. The work at Hyde Park is being supervised by the Westminster City Engineer (Mr. A. W. Hogg, B.Sc., A.M.I.C.E., M.I.Mun.E.).

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WESTMINSTER CITY COUNCIL

HYDE PARK GARAGE

(1) The Hyde Park (Underground Parking) Act, 1961, which received Royal Assent on the 22nd June, 1961, enabled the Minister of Transport to grant to Westminster City Council interests in and rights over an area in the north-eastern part of Hyde Park for the provision of underground parking facilities, together with a petrol station and other services commonly provided in parking places.

Two combined entrance and exit points are provided for in the Act, one in the south-eastern corner of the site connecting with the western carriageway of the improved Park Lane and one in the north-western corner connecting with North Carriage Drive. In the former case provision is made for the petrol filling station in the open area at the foot of the ramps. In exercising his powers under the Act, the Minister has to secure that any surface disturbed in the carrying out of the works is reinstated and that no works, when completed, other than the entrances and exits and ventilation shafts, protrude above the reinstated surfaces and that no trees are felled or interfered with except with the consent of the Minister of Works.

(2) The area defined by the Act of 36 acres is some 1,600 ft. long by 950 ft. wide and has a gentle fall from the northern end to the southern end of 8 ft. In general a layer of top soil between 1 ft. and 1ft. 6 ins. thick overlays sand or gravel below which, at a depth of about 27 ft., is clay. A belt of fine trees is situated on the northern and eastern flanks of the site, and lying just within the belt of trees are extensive mains and services of the public utility companies.

(3) Tenders were invited, by the Westminster City Council, from a limited selection of contractors on a basic design prepared by the City Engineer which incorporated the requirements of the Ministries and other public authorities concerned with the site, and was accompanied by a detailed specification of requirements. The contract provided for the contractor to detail the whole of the structure and the mechanical and electrical services within the framework of the basic design provided. Each contractor was allowed to submit an alternative tender based on his own design but to comply with the requirements of the specification. The contract thus took the form of a "package deal" with no bills of quantities supplied to the tenderers.

On the 2nd November, 1961, the contract was awarded to Sir Robert McAlpine & Sons Ltd., in the sum of £1,051,915.

Because of the considerable distance between the two points of entry stipulated in the Act, a single-storey underground structure was provided in the basic design and in order that it may be situated as near as was allowable to the potential users of the garage, the structure is sited as near to the north-east corner of the site as was possible without disturbing too many of the extensive underground mains and services of the public utility companies and the belt of trees. Nevertheless the routes of certain mains and services could not be avoided and provisional sums totalling over £50,000 are provided in the contract for their alteration or diversion. The garage measures some 1,050 ft. by 295 ft. and will have a clear headroom of 7 ft. 9 ins. throughout with a general ceiling height of 8 ft. 6 ins. The length of the north tunnel providing vehicular and pedestrian ingress and exit is approximately 500 ft. and the similar eastern tunnel approach is 400 ft. in length. A pedestrian subway connecting to the public subway system and underground railway at Marble Arch is approximately 500 ft. long.

The eastern approach from Park Lane has two ramps, one down to and the other up from the tunnel portal, and incorporates a petrol filling station in the open area at the bottom of the ramps. The overall length of the ramps and open area at low level is 700 ft. approximately and the open area has a maximum width of about 55 ft.

The northern approach is wholly within Hyde Park. The down ramp into the garage commences immediately behind one of the gates situated at the Cumberland Lodge and the up ramp is separate, being situated further west along the North Carriage Drive. The combined entry and exit tunnel leading from the garage divides at its northern end to connect to each of the ramps.

It is necessary to provide adequate ventilation in underground garages and because of the large size of the garage, the problems are considerable in this case. Both vehicular tunnels will be used as entries for fresh air and an additional supply of fresh air is provided to the centre of the garage by mechanical means. Large extract equipment is situated between these points to provide a good circulation of air in the garage. The total electrical horsepower required on the ventilation fan units is approximately 190. A standby diesel generator is provided in case of mains failure. As no surface works are permitted on the Parade Ground, which is immediately over the garage, the outlet points for the three ventilation plants are situated in the belt of trees around the site and connected to the garage by large underground ducts totalling over 500 feet in length.

The design of these outlet points is not yet fully settled, but one will terminate within the structure of the rebuilt Grosvenor Gate Lodge and the others will be incorporated in small park structures, one possibly to be used as a park shelter and the other a kiosk.

The design of the garage takes proper account of public safety by the provision of smoke-free escape corridors, emergency staircases, fire doors, water sprinklers and hose reels etc. The escape corridors, which run the entire length of the garage are to have a suspended ceiling set below the concrete roof, designed to reduce noise in the corridors and with the walls decorated in light clean colours and independent supplies of fresh air should form a more pleasant and safe walk for the motorist reaching his car in this large structure. The garage also includes for ancillary provisions in the form of car servicing bays, toilets, staff welfare facilities, etc.

(4) Construction work was started on the site by Sir Robert McAlpine & Sons, Ltd., on the 6th November, 1961. The whole of the works are being carried out in open cut, and the top layer down to a depth of 2 ft. 6ins. amounting to some 40,000 cu.yds. has been excavated on the 300,000 sq.ft. working area by a team of three tractors and scrapers and making temporary dumps some 200 - 300 yards average haul along the west and south perimeters of the site. The task of excavating the whole area to allow for a 10 ft. 6ins. depth of construction to underside of floor, amounting to some 160,000 cu.yds. of spoil was completed this winter by two draglines feeding a fleet of lorries carting the spoil to a Ministry of Transport roadworks site at Heston. The sides of the excavation are battered to a safe slope.

The structure is of reinforced concrete placed in situ, excepting the columns and side walls of the garage which are being precast on site. The retaining walls for the ramped approaches are being formed by continuous rows of cylinder piles. The roof is 12 inches thick reinforced concrete flat slab construction supported generally on some 576 columns either 12 inches x 12 inches or 12 inches x 18 inches. The column centres longitudinally are 25 ft. which permits three cars to be parked between them easily without undue disturbance of traffic movement in the garage. Laterally the columns are set back from the 20 ft. wide running lane by being placed at 24 ft. centres with 16 ft. wide spans on either side set in the parking stalls.

The floor is constructed of 8 inch thick reinforced concrete laid on a 3 inch blinding of concrete with column bases of average size 7 ft. x 7 ft. x 4 ft. 6ins. deep. Floor drainage is provided in parallel rows across the garage at approximately 50 ft. centres.

The detailing of all the surface works around the ramped approaches is designed to be in accordance with the finishes being used by the London County Council on the Park Lane Improvement Scheme and special attention is being given to protect the amenities of the area.

The car park is due to be completed for the City Council, as part of its off-street parking programme, in December, 1962 and will provide parking facilities for approaching 1,100 cars.

A.W.HOGG, B.Sc., A.M.I.C.E., M.I. Mun.E.

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City Engineer and Surveyor.

Westminster City Council  
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